

THE PATHOLOGY AND TREATMENT OF GONORRHOEA IN THE FEMALE.

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In order to understand this subject more thoroughly, we must know something of the pathological anatomy and peculiarities of the tissues involved. The adult female vulva and vagina, on account of their stratified epithelial tissue, offer greater resistance to the invasion of the gonococci than the mucous membrane of the adjacent organs, and are also made less vulnerable by the presence of the bacillus of Doedelein, which is a non-pathogenic micro-organism, producing an acid reaction, in the presence of which the gonococcus will not long survive.

Gilliam (1) states that probably a large number of cases of gonorrhœal vaginitis arise from the cervical discharge, rather than by direct infection of the vagina, while others contend that repeated introduction of the organism, constitutional or local disease, lower the resisting power, giving the gonococci a foothold.

Age is another factor which seems to influence the infection, being relatively more frequent, according to (2) Kelly-Noble, in children, probably due to the greater delicacy of the mucous lining of the vagina. The same may be said of the aged, due to atrophy of the epithelial tissue.

After the gonococci gain access to the tissue of the vulvo-vaginal canal, they penetrate the mucous membrane, making their way into the submucous connective tissue and inter-epithelial spaces, increasing and multiplying to an enormous number, resulting in an active inflammation. The blood vessels become dilated, the mucous membrane swollen and oedematous, due to the infiltration of serum and leucocytes through the vessel wall. An active phagocytosis takes place, by which the

gonococci are removed from the tissues by the leucocytes and by the desquamation of the epithelial cells, forming pus. Invariably, the inflammation travels progressively upward, by continuity, universally involving the uterus, producing a cervicitis and endometritis. Here we find the uterus, including the cervix, enlarged, congested, soft and boggy, the endometrium injected, showing hemorrhagic spots, in conjunction with a granular surface, covered with a muco-purulent exudation. The gonococci may travel further, by the bloodvessels, lymphatics and continuity of tissue, from the uterus to the adnexa, causing complete destruction of the tubes and ovaries, which, like the uterus, are congested, swollen with small ecchymoses. The Graafian follicles may be found destroyed, filled, first, with cloudy serum, and, later, degeneration of the membrana granulosa and discus proligerus destroying the ovum. Finally, purulent points are disseminated, resulting in an active pelvic peritonitis. Here again nature makes her beautiful and wonderful defense, as taught by Murphy (3), first, by the plastic powers of the peritoneum, the peritoneal exudate protecting against infection; second, by the subperitoneal infiltration and venous engorgement, absorption being thereby hindered; third, by diminished peristalsis and diminished rhythmic contraction of the diaphragm and abdominal muscles. If resolution takes place, the uterus, tubes and ovaries are bound down by adhesions to other viscera. They are displaced backward, leaving a chronically enlarged uterus, with an endometrium uneven, with watery-like papillary elevations, and a cervix discharging pus. The tubes and ovaries are distended with pus, the germs perish-

ing in their own secretions, the pus being walled off by the sealing of the tubes and by the surrounding tissue.

In another class, the inflammation runs a milder and more chronic course, the gonococcus being a surface rider, usually affecting the utricular glands, which he clings to with considerable tenacity. The tubes contain no pus, but are thickened, elongated, friable, granular and adherent. The ovaries are congested, the Graafian follicles destroyed, some through distention and cystic degeneration, others becoming cirrhotic, due to fibrous changes in the stroma.

TREATMENT. There is no disease that has as many remedies as gonorrhœa, thus showing the treatment has been unsatisfactory. What seems to have been beneficial in the hands of one proves a failure in the hands of another. Much has been expected of the serum treatment, as it seemed to be based on rational theories, but it has, in the hands of most of us, fallen short of our expectations, although in chronic cases benefit seems to have been derived from its use, but, so far as my own experience goes, I am unable to give it credit, as I used other remedies at the same time.

Each case should be treated according to its particular pathology, and not in routine.

As to abortive treatment, Bierhoff (1) and others think it is absolutely necessary to make a diagnosis by microscopic examination of the secretions and scrapings. This often is impossible, and one is justified in proceeding with the treatment in the presence of other evidences of the disease, since it can do no injury. The vagina is sponged dry and packed with strips of gauze, saturated with 5 per cent., or even 10 per cent., protargol solution. The vulva and urethral orifice are sponged with the same strength solution and the packing held in place by a "T" bandage. This is removed in twenty-four hours by the physician and the treatment repeated. Rest in bed, avoiding highly spiced and seasoned

foods, and drinking large quantities of water, completes the treatment.

As to the treatment of gonorrhœa after the onset of the acute symptoms, there is a great diversity of opinion. Of late, the silver preparations are very popular, with or without vaginal douche.

J. P. Roark (5) attributes the great increase in the graver effects arising from deeper extension of the specific poison to the great prominence given in the last quarter century to the vaginal douche, destroying the natural antagonistic action of the bacillus of Doederlein. He says the proper treatment in the early stage is the local use of hot water, in the form of sitz baths. This simple method has resulted in a cure in all cases that have come under his care in the last six years. To destroy the infecting germ after the complete subsidence of all inflammatory symptoms, he uses the method of Chappel, which consists in the introduction of a suppository of a pure form of yeast, or the yeast may be used as a paste, with the glycerite of starch. Only three to five treatments, made at intervals of three nights, are necessary.

H. W. Howard (6) relates a method of treating by the normal secretion of the vaginal canal, and reports a case where he inoculated a vagina with the normal secretion, on June 19, 1908, and on June 21st, 22d, and 23d. Doederlein's bacillus was found in great numbers, accompanied with a disappearance of the gonococci, the patient being discharged cured on June 25th.

In acute vulvo-vaginitis, until I read Roark's and Bierhoff's articles, I employed the vaginal douche in all cases, but since, if the uterus and adnexa are not involved, I dilate the vagina with a Sims speculum and sponge dry with absorbent cotton; then pack, as in abortive method, with strips of gauze, saturated with 5 per cent. protargol solution, which are removed in twenty-four hours by the patient and followed by a hot sitz bath. The Nebothian

glands are almost always affected, so, in packing, place the gauze, well saturated, against, and often within, the cervical canal. The patient is instructed to avoid exercise, alcohol, highly seasoned and undigestible foods, etc. This method, in the few cases treated, has proven satisfactory. If the uterus and adnexa are involved, producing a cellulitis or peritonitis, or if the uterus alone is affected, then hot douches of twenty minutes duration should be employed, preferably a douche of permanganate of potassium, 1:3000. In addition to this an ice bag is placed to the lower abdomen. If the peritonitis is severe, the bowels should be moved by enema and the diet restricted to small amounts of egg albumen and beef juice, given often, if necessary withdrawing the diet completely for twenty-four to forty-eight hours, giving small amounts of water and cracked ice by the mouth. Stimulation is indicated, opium to be avoided as much as possible. After the acute symptoms have subsided, often the cul-de-sac is found filled with pus, giving rise to a pelvic abscess. This should be opened and drained, by means of a tube or strips of gauze, avoiding irrigation at this time, as there is danger of the force of the stream perforating the wall of the abscess and disseminating the pus throughout the general peritoneal cavity. These cases, or those in which the adnexa are involved, later call for an abdominal section, either hysterectomy or

salpingo-oophorectomy. In cases requiring curettage, the Pacquelin cautery should be applied to the cervix, after the method of Hunter (7). The uterus, if displaced backward, should be brought forward and fixed by ventral suspension, or by the Mayo or the Gilliam-Ferguson operation, a matter of choice of the operator. The chronic cases, in which the Nabothian glands alone are affected, producing a thick, ropy leucorrheal discharge, are treated often by permanganate douches and dilatation of the cervix with Hanks dilators, and curetting enough to open the mouths of the glands, a bone curette being an excellent instrument for the purpose, followed by silver nitrate, 40 gr. to the ounce. Batty solution and alcohol give good results.

Cystitis should be treated as in other forms of cystitis, preferring Elix. Uritone Co. internally and silver irrigation of the bladder.

Infection of the Bartholin and other glands around the vulva and urethral orifice should be treated on general surgical principles.

1. Gilliam's Text-Book of Practical Gynecology, p. 110.
2. Kelly-Noble, Vol. 1, p. 819.
3. Surgery, Gynecology and Obstetrics, June, 1908.
4. Bierhoff, New York Med. Jour., Jan. 11, 1908.
5. J. P. Roark, Illinois Med. Jour., Feb., 1908.
6. H. W. Howard, Jour. of Am. Med. Ass'n, June 27, 1900.
7. Report of Southern Gynecological Ass'n.